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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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1. The Moscow Kompressor Factory is located at No. 20 Dangauerovskaya Sloboda, Kalinin District, Moscow, near the Sortirovochnaya (Marshalling) Station of the Moscow-Ryazan railway. From this station a special side-line of normal gauge leads to the factory. Dangauerovskaya Sloboda (Suburb) is near to the Shosse (Highway) Entuziastov.

2. The factory now belongs to the Ministry for Machine and Instrument Construction and is directly subordinate to the Ministry's Chief Directorate of Chemical Machinery Construction (Glavkhimmash).

[redacted]

History

3. The Kompressor Factory was founded in 1870 as the Dangauera Boiler Factory. For 15 years after the Revolution it was called the Kotloapparat Factory and belonged to the Chief Directorate of Mining Machinery Construction of the People's Commissariat for Heavy Industry. Subsequently it changed its name to Kompressor Factory.

4. In 1941 a large part of the factory, equipment, and personnel was evacuated. The remaining part, with various non-evacuated Moscow factories, was equipped and manned and produced war material for the People's Commissariat for Armament and Munitions. During this period the factory belonged to the Peoples Commissariat for Mortar Armaments. In 1943 it was awarded the Order of Labor Red Banner.

5. After the war a start was made with reorganizing the factory for its peacetime production. A great deal of work was necessary, as the factory was in a very bad state, and a large number of machine tools were so worn out through constant and careless use that they could not even be repaired. The personnel, accustomed in wartime to mass-production work, was unable to switch over at once to more independent and individual work and had to be retaught. This reorganization took nearly two years, and as a matter of fact the present work of the factory only started in 1947. In 1945-1947 a great deal of new special equipment arrived; in 1947, 324 new and more up-to-date machine tools were installed.

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6. In 1945 and 1946 the factory received a State subsidy of about 18 million rubles. In 1947 it received a subsidy of six and a half million rubles, but in the fourth quarter it made a profit of more than à million rubles. At the beginning of 1948 the factory renounced a State subsidy, and from that date it has been a profitable enterprise.

7. Type of Product Manufactured

7. In the years preceding the war the Kompressor Factory produced a large number of air compressors and refrigerator plants and a small number of pumps, machines, and articles of various types. Compressors were produced mainly after foreign models, but experienced designers were already being trained at the factory. These, together with designers of Giproazotmash (State Institute for Designing Machinery for the Nitrogen Industry), evolved an original design for a high-pressure compressor for 200,300, and 800 atmospheres. Before the war the factory produced in series ammonia and air compressors and refrigerating and chemical equipment.

8. After the war the Chief Directorate for Chemical Machinery Construction of the Ministry for Machine and Instrument Construction began to co-operate closely with the newly-formed (1943) Scientific Research Institute of Chemical Machinery Construction (Niikhimmash) at which specialists of the chemical industry were gathered. Before the war there did not exist this scientific technical center to direct and guide the activity of factories, and so the factories of this industry frequently built machines of different types, similar and even identical in their characteristics. In general, there was no directing agreement.

9. After the war Glavkhimmash together with Niikhimmash compiled directions and regulations for the normalization of machine parts, in particular for the normalization of the nomenclature of piston compressors, and designated the specialization of factories in the production of separate classes of machines, being of the opinion that a reduction of the various types of machine produced at one factory increases the possibility of producing them in series. For example, before the war the Kompressor Factory evolved and produced several centrifugal compressors. In accordance with the regulations about the specialization of factories, the production of centrifugal compressors has been entrusted to the Nevski Machine-building Works i/n Lenin at Leningrad. In the same way, the Kompressor Factory before the war evolved and produced several oxygen compressors, 0.75 cu m and 3 cu m per minute at a pressure of 22 atmospheres. Now, according to the regulations, the production of these compressors has been allocated to Factory No. 724 i/n Frunze of Sredazkhimmash (Central Asian Chemical Machinery Construction) at Chirchik, near Tashkent.

Main Production [redacted]

10. Main production includes compressors for refrigerator plants, and fully equipped refrigerator plants, which the factory will produce in large series, and some of which will be mass-produced.

11. Ammonia vertical direct-flow compressors, designated by letters AV (Ammiachny = ammonia, Vertikalny = vertical).

Type 2 AV-15/480. Cylinder diameter: 150 mm. Piston stroke: 140 mm. Two cylinders. 480 rpm. Refrigerating capacity: 25,000 calories per hr. Weight: 600 kgs.

Type 2 AV-15/720. Cylinder diameter: 150 mm. Piston stroke: 140 mm. Two cylinders. 720 rpm. Refrigerating capacity: 75,000 calories per hr. Weight: 930 kgs.

Type 2 AV-27. First model of this compressor was produced at the end of 1949. Capacity: 400,000 calories per hr.

Type 5 AV-35. Cylinder diameter: 350 mm. Piston stroke:: 350 mm. 275

[redacted]

Type 4 AU-15/480. Cylinder diameter: 150 mm. Piston stroke: 140 mm. 4 cylinders. 480 rpm. Capacity: 100,000 calories per hr. Weight: 1,250 kgs.

Type 4 AU-15/720. Cylinder diameter: 150 mm. Piston stroke: 140 mm. Four cylinders: 720 rpm. Capacity: 150,000 calories per hr. Weight: 1,250 kgs.

Type 2-4 AU-15/720. Cylinder diameter: 150 mm. Piston stroke: 140 mm. 8 cylinders. 720 rpm. Capacity: 300,000 calories per hr. Weight 2,500 kgs.

13. As the above mentioned data show, the cylinders and pistons in types 2 AV-15/480 and 2 AV-15/720 listed in paragraph 11 and in types listed in paragraph 12 have been standardized.

14. Freon direct-flow compressors, designated by letters FV (Freonovy Vertikalny = Freon Vertical) or FU (Freonovy U-Obrazny = freon V-shaped).

Type 2 FV-19/480. Cylinder diameter: 190 mm. Piston stroke: 140 mm. Two cylinders. 480 rpm. Capacity: 100,000 calories per hr. Weight: 950 kgs.

Type 2 FV-19/720. Cylinder diameter: 190 mm. Piston stroke: 140 mm. Two cylinders. 720 rpm. Capacity: 150,000 calories per hr. Weight: 950 kgs.

V-shaped type. 4 FU-19/480. Cylinder diameter: 190 mm. Piston stroke: 140 mm. 4 cylinders. 480 rpm. Capacity: 200,000 calories per hr. Weight: 1,350 kgs.

Type 4 FU-19/720. Cylinder diameter: 190 mm. Piston stroke: 140 mm. 4 cylinders. 720 rpm. Capacity: 300,000 calories per hr. Weight: 1,350 kgs.

Type 2-4FU-19/720. Cylinder diameter: 190 mm. Piston stroke: 140 mm. 8 cylinders. 720 rpm. Capacity: 600,000 calories per hr. Weight: 2,700 kgs.

As the above-mentioned data show, the cylinders and pistons have been [redacted]ized, thus simplifying the production of a large number of types and [redacted] of compressors.

15. Ammonia two-stage compound-compressors, designated by letters AG (Amniachny Gorizontalny = ammonia horizontal).

Type 7 AG. Low-pressure cylinder diameter: 470 mm. High-pressure cylinder diameter: 300 mm. Piston stroke: 450. 137 rpm. Capacity: 275,000 calories per hr. Temperature: minus 35 degrees C. Weight; 10,880 kgs.

Type 1 5 AG. Low-pressure cylinder diameter: 5[illegible] mm. High-pressure cylinder diameter: 300 mm. Piston stroke: 450 mm. 137 rpm. Capacity: 150,000 calories per hr. Temperature: minus 60 degrees C.

[redacted] horizontal [redacted] small [redacted] base compound [redacted] on the base [redacted]

16. Steam-ejector machine type 1 E

Steam-ejector machine type 2 E

Steam-ejector machine type 3 E

17. Apparatuses for refrigerating plants. Details of only a few apparatuses are given below.

a. Ammonia condensers: ammonia vertical casing-pipe (kozhukho-trubny) condensers for large refrigerating plants.

Condenser with cooling surface of 50 sq m. Height of steel casing: 5 m. Clearance height: 5.5 m. Inside diameter of casing: 700 mm. Weight: about 2,500 kgs.

Condenser with cooling surface of 75 sq m. Height of steel casing: 5 m. Clearance height: 5.5 m. Inside diameter of casing: 800 mm. Weight: about 3,750 kgs.

Condenser with cooling surface of 100 sq m. Height of steel casings: 5 m. Clearance height: 5.5 m. Inside diameter of casing: 900 m. Weight: about 5,000 kgs.

Condenser with cooling surface of 150 sq m. Height of casing: 5 m. Clearance height: 5.5 m. Inside diameter of casing: 1,000 mm. Weight: 7,500 kgs.

Thickness of walls of casing from 11 to 18 mm.

b. Ammonia sprinkler condensers for refrigerating plants of medium capacity.

Sprinkler condenser with cooling surface of 30 sq m. Height: 2,200 mm. In two sections: each section of 14 pipes, pipes 6 m long. Width of casing (karkas): 2,000 mm.

Sprinkler condenser with cooling surface of 45 sq m. Height: 2,200 mm. Width of casing: 2,500 mm. 3 sections.

Sprinkler condenser with cooling surface of 60 sq. m. Height: 2,200 mm. Width of casing: 3,000 mm. 4 sections.

Sprinkler condenser with cooling surface of 75 sq m. Height: 2,200 mm. Width of casing: 3,600 mm. 5 sections.

Sprinkler condenser with cooling surface of 90 sq. m. Height: 2,200 mm. Width of casing: 4,200 mm. 6 sections.

c. Evaporator (isparitelny) condensers for refrigerating plants of small and medium capacity. Several types are produced.

d. Condensers for steam-ejector refrigerating machines. Several types are produced.

e. Evaporators (isparitel) for refrigerating plants.

1) Several types of casing-pipe evaporators are produced including: Evaporator with evaporation surface of 35 sq m. Diameter of casing: 720 mm. Length of casing: 3,000 mm. 116 pipes.

Evaporator with evaporation surface of 35 sq m. Diameter of casing: 720 mm.; length 5,000 mm. 116 pipes.

2) Vertical pipe-evaporators for ammonia refrigerating plants with propellor mixers.

Evaporator with evaporation surface of 20 sq m. Length of tank: 3,300 mm; width: 800 mm. 1 h p electric motor for mixer. Weight: 1,200 kgs. 2 sections.

Evaporator with evaporation surface of [redacted]
and width of tank: 3,300
1,800 kgs. 3 sections.

Evaporator with evaporation surface of 40 sq m. 4 sections. Length and width: 3,600 mm x 1,000 mm. 2 h p. Weight: 2,400 kgs.

Evaporator with evaporation surface of 60 sq m. 4 sections. Length and width: 5,000 x 1,000 mm. 2 h p. Weight: 3,600 kgs.

Evaporator with evaporation surface of 90 sq m. 6 sections. Length and width: 5,000 x 1,600 mm. 2.5 h p. Weight: 5,400 kgs.

Evaporator with evaporation surface of 120 sq m. 6 sections. Length and width 6,000 mm x 1,600 mm. 2.5 h p. Weight: 7,200 kgs.

Evaporator with evaporation surface of 160 sq m. 8 sections. Length and width: 6,000 mm x 2,150 mm. 4 h p. Weight: 8,600 kgs.

Evaporator with evaporation surface of 200 sq m. 10 sections. Length and width: 6,000 x 2,700 mm. 5 h p. Weight: 12,000 kgs.

3) Evaporators for steam-ejector machines.

f. Air-refrigerators with Raschig (packing) rings and wet air-refrigerators with Raschig rings.

Dimensions of tank without evaporator: 2 x 1 x 1.6 m. Weight 780 kgs. Dimensions with evaporator: 2 x 1 x 2.3 m.

Dimensions of tank without evaporator: 3 x 1.5 x 1.9 m. Weight: 1,550 kgs. Dimensions with evaporator: 3 x 1.5 x 2.3 m. Weight: 2,860 kgs.

Dimensions of tank without evaporator: 4 x 2 x 1.9 m. Weight: 2,550 kgs. Dimensions with evaporator: 4 x 2 x 2.4 m. Weight: 4,785 kgs.

Dimensions of tank without evaporator: 6 x 2 x 1.9 m. Weight: 3,350 kgs. dimensions with evaporator: 8 x 2 x 1.9 m. Weight: 4,180 kgs.

Secondary Production: Air Compressors

18. Horizontal compressors, designated by letters VG (vozdushny = air, gorizontalny = horizontal).

Type 2 VG (also known as V-55). Cylinder diameter: 900 mm. Piston stroke: 550 mm. Compressor dimensions: length - 8,500 mm, width - 3,750 mm, height - 2,500 mm. Weight of compressor: 22 tons. Quantity of air sucked in per min: 100 cu m. Compression pressure: 8 atm. 170 rpm. 625 kw engine. This compressor is designed mainly for the oil industry.

Type BVG. Cylinder diameter: 730 mm. Piston stroke: 550 mm. Dimensions: length - 6,000 mm, width - 3,500 mm, height - 2,200 mm. Quantity of air sucked in per min: 60 cu m. Compression pressure: 3.5 atm. 170 rpm. 280 kw engine.

Type 3 VG. Cylinder diameter: 730 mm. Piston stroke: 550 mm. Dimensions: length - 6,700 mm, width - 4,900 mm, height - 2,450 mm. Weight - 21,500 kgs. Quantity of air sucked in per min: 120 cu m. Compression pressure: 3.5 atm. 170 rpm. 625 kw engine.

Type 4 VG. Cylinder diameter: 900 mm. Piston stroke: 500 mm. Dimensions: length - 7,300 mm, width - 5,400 mm, height - 2,450 mm. Weight: 22,500 kgs. Quantity of air sucked in per min: 200 cu m. Compression pressure: 2 atm. 170 rpm. 625 kw engine. Mainly for oil industry.

Type 1 VG (also known as V-45). Quantity of air sucked in per min: 60 cu m. Compression pressure: up to 8 atm. 190 rpm. 360 kw engine. Weight: 14,220 kgs.

Type 5 VG. Quantity of air sucked in per min: 60 cu m. Compression pressure: 3.5 atm. Maximum rpm: 170. 280 kw engine.

19. Vertical compressors type VVK (Vertikalny Vozdushny Kompressor - Vertical air compressors). These vertical compressors are often called high speed (730 rpm). They are usually fitted on the same plate as the engine.

Type VVK-200. Diameter of cylinders: 200 mm. Piston stroke: 150 mm. Maximum rpm: 730. Two cylinders. Useful pressure: 7 atm. Capacity: 5.5 cu m. per min. Weight: 700 kgs. Mainly for the operation of a pneumatic tool.

Type VVK-155 (portable type). Diameter of cylinders: 155 mm. Piston stroke: 110 mm. Maximum rpm: 960. Useful pressure: 7 atm. Capacity: 3 cu m. per min. Weight of compressor: 800 kgs.

Type VVK-240. Diameter of cylinders: 240 mm. Piston stroke: 180 mm. Two cylinders. Maximum rpm: 730. Useful pressure: up to 7 atm. Capacity: about 9 cu m. per min. Weight of compressor with flywheel: 1,250 kgs.

Miscellaneous Production 50X1-HUM

20. The following machines and articles of post-war production [redacted]

Pumps for the drainage of peat bogs.
Coke gascompressors.
Tubing for Moscow subway.
Large pumps for Moscow municipality.
Spare parts for agricultural machines.
Parts for tractors of various types.

21. The consumer's goods shop produces many household articles, including the production annually of several iron beds, metal fencing designed [redacted]

22. [redacted] output was not known to inf[redacted] the [redacted] locomotive brought several ([redacted]) to the factory and they were loaded with machine[redacted]

Personnel and Shops

23. [redacted] does not know the exact number of personnel but estimates 4,500. 50X1-HUM

24. High Level Personnel

a. Director, until quite recently: [redacted] Alekseyevich Demin, who was director during the war, reorganized the [redacted] after the war, and was awarded several Orders for his war work, including the Order of Patriotic War, 1st class.

b. Acting Director at the present time: D.D. Lapikov, Chief Engineer of the factory.

c. Chief Engineer: Okromeshko (non-Party).

d. Chief Technologist: Goppius (non-Party). 46 engineer-technologists of the factory are under him.

e. Chief Designer: Shilov (non-Party), recently replaced by Engineer Chasovikov (Party).

25. Shops and Chiefs

a. Compressor shop. Head: Engineer Ivlev; Secretary of Party Organization of shop: Larin.

b. Boiler equipment shop. Head: Vaganov; Secretary of Party Organization of shop: Kovalev.

c. Refrigerating equipment shop. Head: Makarov; Secretary of Party Organization of shop: Glinski.

d. Machine tool and tool shop. Head: Stepanov; Secretary of Party Organization of shop: Grishin.

e. Forge. Head: Gulgulyan; Secretary of Party Organization of shop: Abramov.

f. Foundry. Head: Fedorov; " " " " " " Komlev

g. Welding shop.

h. First Machine shop.

i. Second Machine shop.

j. Pattern shop.

k. Machine assembly shop.

l. Electric machine repair shop.

m. Consumer's goods shop.

n. Several auxiliary shops and factory departments.

26. In main shops three shifts are worked, but in 1949 some sections of some shops were working in two shifts, and the night shift is allocated for the preparation of work and for putting the equipment in order. This experiment appears to be giving very good results, and the output of two shifts is not less than that of the former three shifts. But this arrangement is still under trial.

Installations

27. In the last two years the foundry has been appreciably modernized. It has obtained and built many machines; the machines were obtained from the Krasnaya Presnya Factory. The machine tool and tool shop of the Kompressor Factory built several moulding machines and special machine tools.

28. An innovation at the factory is the production of cast crank shafts from special cast iron for ammonia compressors after the example of Chelyabinsk Tractor Works, which has begun to produce in series cast crankshafts, for S-80 tractor engines. There were many discussions at the factory about this among the technical and engineer personnel, especially the technologists. After a year's selection of cast iron and special castings, shafts were obtained which passed every test. When they began to produce them in series, however, some shafts turned out to be good and even better than those forged, but others did not pass the tests. So far there is no uniformity in the production of cast shafts.

Miscellaneous

29. Customers include the coal, metallurgical, oil, chemical, food, meat and dairy industries, and the merchant fleet. Informant saw receivers from the Baltic Shipbuilding Yard i/n Ordzhonikidze, No. 189, at Leningrad, which took over steam-condenser refrigerating plants.

30. The factory newspaper is Udarny Trud.